

5.3.1 Enhancing ISM Implementation at DOE Headquarters and Field Offices

Issue

The Department's implementation of Integrated Safety Management within its Federal organizations can be improved through clear definition of federal expectations and federal ISM system descriptions.

Basis

The Department and its contractors remain firmly committed to ISM as first defined in 1996. Despite this, the Federal organizations have not consistently and completely implemented ISM. This is due to ambiguity in ISM expectations for the Federal level, inconsistent follow-up and oversight, and incomplete implementation guidance. The nature of Federal roles places strong emphasis on the ISM guiding principles. Over the past decade, High-Reliability Organization (HRO) attributes have been developed from low-probability high-consequence work experience and research findings. The Department's ISM principles and related guidance do not fully reflect the lessons learned about effective HROs.

Resolution Approach

The Department will clarify its expectations for DOE programs and field elements. For example, clear requirements and a set of expectations are needed for ISM system descriptions and for annual reviews and annual declarations. Results of annual reviews need to be effectively used to improve ISM. The Department will clarify existing ISM expectations for contractors regarding annual reviews and annual declarations, and clarify expectations regarding full ISM verifications. DOE programs and sites will develop and implement ISM system descriptions, if they have not already. In some cases, ISM system description requirements can be addressed in QAPs; in other cases, program FRA documents may be revised to address ISM system description requirements. Verification of implementation will take place as part of normally scheduled line oversight and independent oversight reviews.

To enhance the understanding of the desired environment for ISM, the Department has reviewed HRO attributes and evaluated how these attributes relate to the existing set of guiding principles and functions. This analysis also considered the lessons from Columbia and Davis-Besse, the INPO Nuclear Safety Culture Principles Document, the INPO Human Performance Initiative, and other recent work and research on safety culture. The Department completed this analysis and identified the following four supplemental high-reliability principles that merit enhanced focus and attention to help the Department establish the required environments for effective ISM implementation:

- High-Reliability Operational Performance
- Individual Attitude and Responsibility
- Performance Assurance
- Organizational Performance Improvement

The result of this effort, “Requisite Environment for Effective Implementation of Integrated Safety Management (ISM) Systems,” is provided in Appendix F. This Appendix is labeled “draft” to reflect that it has not yet been fully institutionalized as part of the Department’s directive system. To help reinvigorate the use of ISM to guide organizational performance improvement, this paper seeks to clearly describe the context or environment within which ISM must operate to be effective. With this vision, leaders throughout the organization can direct efforts to create the necessary environment for effective ISM implementation and, ultimately, positive culture change. This vision also seeks to clearly articulate expected, observable behaviors typical of the total environment within which ISM must be implemented to be fully effective. Leaders need to implement appropriate change strategies to make these behaviors recognizable and typical in their work environments. Achieving these desired work behaviors will result in greater productivity as well as improved safety.

In addition, the Department has clarified its expectations concerning implementation of ISM by DOE personnel. These expectations are provided in Appendix G. This Appendix is labeled “draft” to reflect that it has not yet been fully institutionalized as part of the Department’s directive system. Basically, these expectations encompass:

- Annual ISM System Descriptions
- Annual Reviews of ISM Implementation
- Annual ISM Declarations
- Annual Performance Expectations and Performance Objectives

The Department will establish an ISM Manual to formally capture and institutionalize the DOE ISM expectations (Appendix G) and the “Requisite Environment” contents (Appendix F). Through institutionalizing the Department’s ISM vision and expectations within the DOE directives system, affected parties will have ample opportunity to understand and appreciate the Department’s direction. Additional experience in implementing these expectations will provide necessary feedback to further improve and clarify the ISM Manual and other ISM directives through future revisions.

A main thrust of the action in this section is focused on the DOE federal ISM system descriptions. Department personnel have a vital role to play in the Department-wide ISM system. The Department role is different from the contractor role, but it is important for assuring safety, and it needs to be clearly articulated. Examples of inherently Federal work that is required for the Department-wide ISM system to be effective include:

- Establishing missions,
- Establishing annual budgets, including making decisions on mission-safety trade-offs,
- Developing DOE safety rules, directives and standards,
- Assigning safety management roles and responsibilities,
- Establishing contracts, including delineation of safety requirements,
- Approving exemptions to safety requirements,
- Establishing a positive environment for effective ISM system implementation,

- Approving safety analysis reports and technical safety requirements,
- Approving authorization agreements,
- Performing operational readiness reviews,
- Maintaining operational awareness,
- Monitoring various sources of feedback information,
- Monitoring performance of corrective action and improvement action sub-systems,
- Managing the DOE operational experience program,
- Performing self-assessments of assigned federal work activities,
- Performing oversight of contractor work activities,
- Performing line management oversight of DOE activities, as appropriate,
- Performing independent oversight,
- Reviewing annual ISM declarations by contractors,
- Performing annual ISM effectiveness reviews,
- Approving annual performance objectives, performance measures, and commitments for contractors.

Real safety improvement comes when each of these safety functions is performed in an excellent manner. Real safety improvement will not be accomplished merely through development and issuance of ISM system descriptions. Rather, these descriptions will serve to facilitate and focus thinking and planning of an appropriate approach to safety management, and organizing and implementing the necessary follow-through activities. These descriptions will also capture and institutionalize future changes and improvements to the approach and provide new organization members with a handy road-map to see the full, integrated vision. These descriptions will allow line managers to monitor performance and also allow reviewers to evaluate whether the planned activities are being accomplished.

Federal personnel need to take a strong role in assuring effective contractor implementation of both ISM Guiding Principles and ISM Core Functions. The Department expects that contractor system descriptions will continue to be updated annually and reviewed by the local site offices as part of their oversight programs.

Additional elements of the Department's approach to revitalize the ISM infrastructure and move the Department forward with renewed vigor include:

- Clearly establishing ISM champions within all DOE program and field offices,
- Establishing an ISM working group supporting the champions to lead ISM reinvigoration,
- Conducting workshops for communicating vision and expectations, sharing guidance, sharing lessons learned and good practices, and developing consensus work products.
- Developing an action plan to address the findings from the August 2002 Idaho ISM workshop.
- Reviewing implementation experience after the Department organizations issue ISM system descriptions to determine whether there is a need to revise the expectations, provide new training or guidance, or take other actions for improvement.

- After at least 1 year of experience in meeting the new ISM expectations for DOE personnel, consider revising the existing DOE ISM policy, DOE ISM guide, DOE ISM systems verification team leader's handbook, and ISM DEAR clause. If the decision is made to move forward with revisions, strong input from field office representatives and contractors will be needed to make ISM directive changes effective.

Deliverables/Milestones

Commitment 21: Describe a path forward for linking HRO attributes with existing ISM principles and functions, and describe how these attributes will be incorporated in the Department's guidance directives.

Lead Responsibility: 2004-1 Implementation Team

Deliverable A: DOE reaffirmation of ISM and draft statement linking ISM with HRO attributes, approved by the Secretary of Energy

Due Date A: **Complete – See Cover Letter and Appendix F.**

Deliverable B: Letter from the 2004-1 responsible manager to the Board providing the Department's decision and basis on whether to issue the Appendix F ISM vision as a complementary ISM Policy or Notice.

Due Date B: July 2005

Commitment 22: Issue and implement expectations for DOE organizations regarding ISM implementation.

Lead Responsibility A: NA-1 and US-ESE

Deliverable A: A draft set of expectations for DOE ISM system descriptions for DOE headquarters and field organizations

Due Date A: **Complete – See Appendix G.**

Lead Responsibility B: EH-1

Deliverable B: New DOE Manual on ISM, institutionalizing the DOE expectations provided in Appendix G, issued for use.

Due Date B: December 2005

Lead Responsibility C: NA-1 and US-ESE and EH-1

Deliverable C: Approved DOE ISM system descriptions (which may be addressed in revisions to QAPs or FRA documents) for DOE headquarters and field organizations that meet Appendix G expectations

Due Date C: For Headquarters programs ISM system descriptions, 3 months after issuance of the approved ISM Manual per Commitment 22B [March 2006]; for field office ISM system descriptions, 8 months after issuance of the approved ISM Manual per Commitment 22B [August 2006]

Integration with ISM system

This plan section deals with the overall objective and methods of ISM. It involves reinvigorating the ISM program overall and throughout the complex.